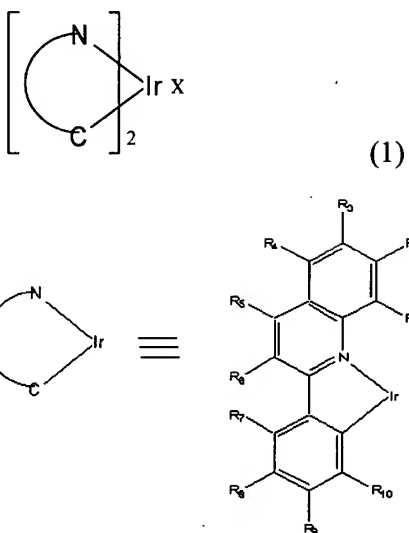


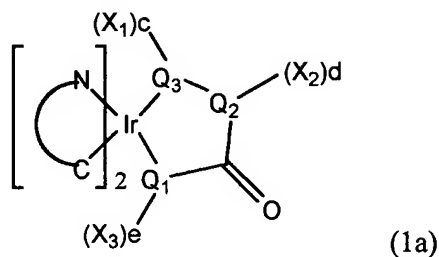
WHAT IS CLAIMED IS:

1. A compound having the formula (1):



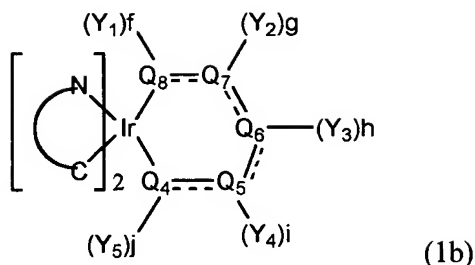
where $R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8, R_9,$ and R_{10} are independently selected from the group consisting of a C1-C30 alkyl group, a substituted C1-C30 alkyl group, a C2-C20 alkenyl group, a substituted C2-C20 alkenyl group, a C1-C20 alkoxy group, a substituted C1-C20 alkoxy group, a C6-C30 aryl group, a substituted C6-C30 aryl group, a C6-C30 fused aromatic ring, a substituted C6-C30 fused aromatic ring, a substituted or unsubstituted C6-C30 arylalkyl group, a C6-C30 arylalkyl group, a substituted C6-C30 aryloxy group, a C2-C30 heteroaryl group, a substituted C2-C30 heteroaryl group, a C2-C30 heteroarylalkyl group, a substituted C2-C30 heteroarylalkyl group, a C2-C30 heteroaryloxy group, a substituted C2-C30 heteroaryloxy group, a C5-C20 cycloalkyl group, a substituted C5-C20 cycloalkyl group, a C2-C20 heterocycloalkyl group, a substituted C2-C20 heterocycloalkyl group, a halogen atom, and a cyano group, and X is a bidentate ligand.

2. The compound of claim 1, having the formulae (1a):



where Q₁, Q₂, and Q₃ are independently selected from the group consisting of carbon (C), oxygen (O), nitrogen (N), and sulfur (S); X₁, X₂, and X₃ are independently selected from the group consisting of hydrogen, a C1-C30 alkyl group, a substituted C1-C30 alkyl group, a C2-C20 alkenyl group, a substituted C2-C20 alkenyl group, a C1-C20 alkoxy group, a substituted C1-C20 alkoxy group, a C6-C30 aryl group, a substituted C6-C30 aryl group, a C6-C30 fused aromatic ring, a substituted C6-C30 fused aromatic ring, a substituted or unsubstituted C6-C30 arylalkyl group, a C6-C30 arylalkyl group, a substituted C6-C30 aryloxy group, a C2-C30 heteroaryl group, a substituted C2-C30 heteroaryl group, a C2-C30 heteroarylalkyl group, a substituted C2-C30 heteroarylalkyl group, a C2-C30 heteroaryloxy group, a substituted C2-C30 heteroaryloxy group, a C5-C20 cycloalkyl group, a substituted C5-C20 cycloalkyl group, a C2-C20 heterocycloalkyl group, a substituted C2-C20 heterocycloalkyl group, a halogen atom, and a cyano group; and c, d, and e are independently 0, 1, or 2, wherein X₁ and X₂ are combined together to form a cyclic system.

3. The compound of claim 1, having the formulae (1b):

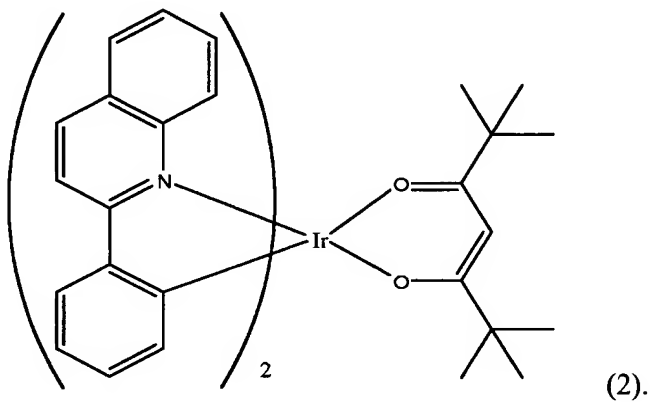


where Q_4 , Q_5 , Q_6 , Q_7 , Q_8 , and Q_9 are independently selected from the group consisting of carbon (C), oxygen (O), nitrogen (N), and sulfur (S); Y_1 , Y_2 , Y_3 , Y_4 , and Y_5 are independently selected from the group consisting of hydrogen, a C1-C30 alkyl group, a substituted C1-C30 alkyl group, a C2-C20 alkenyl group, a substituted C2-C20 alkenyl group, a C1-C20 alkoxy group, a substituted C1-C20 alkoxy group, a C6-C30 aryl group, a substituted C6-C30 aryl group, a C6-C30 fused aromatic ring, a substituted C6-C30 fused aromatic ring, a substituted or unsubstituted C6-C30 arylalkyl group, a C6-C30 arylalkyl group, a substituted C6-C30 aryloxy group, a C2-C30 heteroaryl group, a substituted C2-C30 heteroaryl group, a C2-C30 heteroarylalkyl group, a substituted C2-C30 heteroarylalkyl group, a C2-C30 heteroaryloxy group, a substituted C2-C30 heteroaryloxy group, a C5-C20 cycloalkyl group, a substituted C5-C20 cycloalkyl group, a C2-C20 heterocycloalkyl group, a substituted C2-C20 heterocycloalkyl group, a halogen atom, and a cyano group; and f , g , h , i , and j are independently 0, 1, or 2, wherein two of the groups Y_1 through Y_5 are combined together to form a cyclic system.

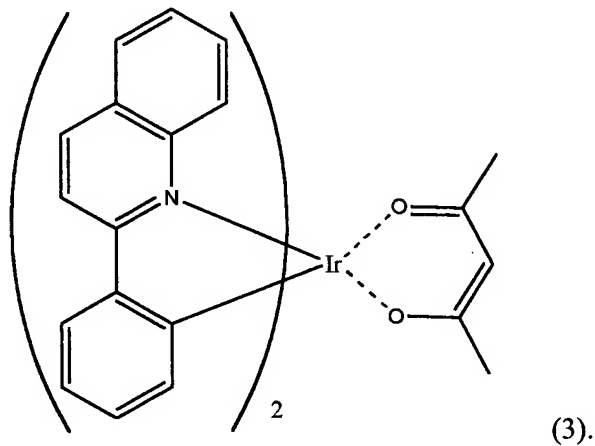
4. The compound of claim 1, wherein X in said formula (1) is selected from the group consisting of acetylacetonate, hexafluoroacetylacetonate, salicylidene, picolinate,

- 3 8-hydroxyquinolate, α-amino acid L-proline, benzoylacetate, dibenzoylmethane,
4 tetramethylheptanedione, and 1-(2-hydroxyphenyl)pyrazolate.

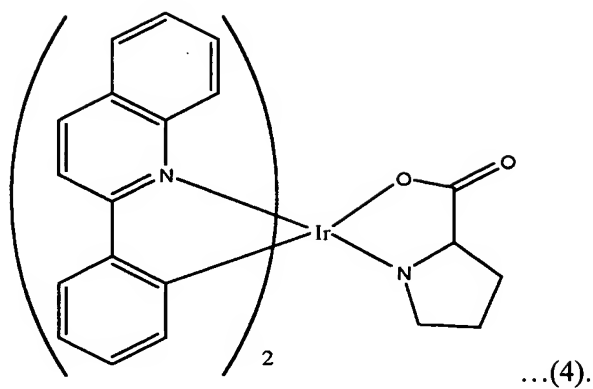
- 1 5. The compound of claim 1, having the formula (2):



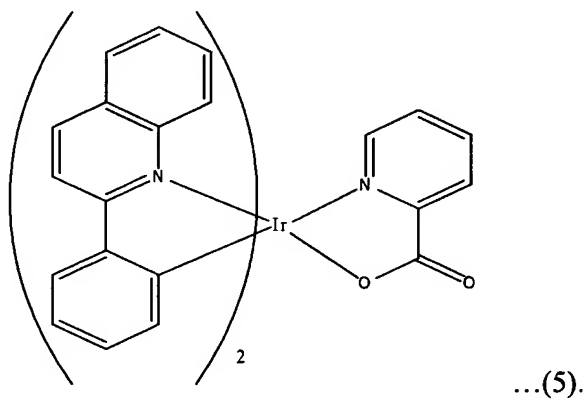
- 1 6. The compound of claim 1, having the formula (3):



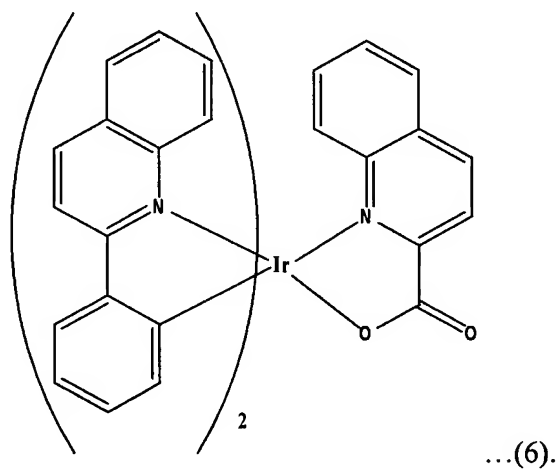
- 1 7. The compound of claim 1, having the formula (4):



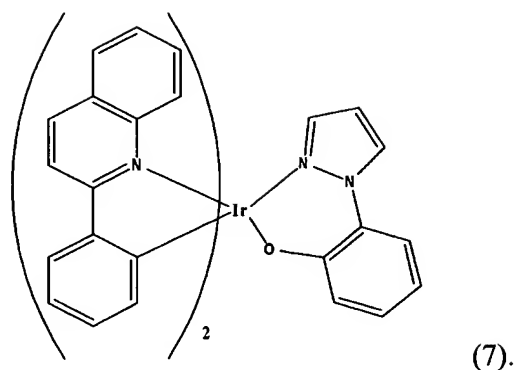
- 1 8. The compound of claim 1, having the formula (5):



- 1 9. The compound of claim 1, having the formula (6):



- 1 10. The compound of claim 1, having the formulae (7):



- 1 11. The compound of claim 1, wherein X in said formula (1) is the bidentate
2 ligand expressed as:



- 1 12. An organic electroluminescent device comprising an organic layer between a
2 pair of electrodes, the organic layer containing the compound of said formula (1) according to
3 claim 1.

- 1 13. The organic electroluminescent device of claim 12, wherein the organic layer
2 is an emissive layer.

- 1 14. An image display device using the compound of said formula (1) according to
2 claim 1.